

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :  
Mamoru SHOJI et al. :  
Serial No. NEW : **Attn: Application Branch**  
Filed February 15, 2001 : **Attorney Docket No. 2001\_0160**  
RECORDING MEDIUM, RECORDING :  
APPARATUS AND RECORDING METHOD :  
(Rule 1.53(b) Divisional  
of Serial No. 09/395,218,  
Filed September 14, 1999)

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

Please amend the above-identified application as follows.

**IN THE SPECIFICATION:**

**After the title at page 1, line 1, please add the following paragraph:**

This application is a Rule 1.53(b) Divisional of Serial No. 09/395,218, Filed September 14, 1999.

**Please replace the paragraph at page 40, line 21, with the following rewritten paragraph:**

In Fig. 7, the 10T period of 710 and 711 (a 6T space and 4T mark) and the 10T period of 712 and 713 (*a 4T mark and 6T space >> 712 is a 4T SPACE and 713 is a 6T MARK in Fig. 7*) overlap and appear as a continuous wave. Measured signal 710 - 711 and the next measured signal 712 - 713 therefore overlap, and it is difficult to accurately separate and analyze the measured signals. Utilizing the fact that jitter is minimized if the two 10T periods are substantially the same length, a jitter meter

can therefore be substituted for measurement. Other than these signal periods, the same method used with the first pattern is applied to set and update the first pulse settings 4S4M and 3S3M, and last pulse settings 4M4S and 3M3S in Fig. 5 (a).

**Please replace the paragraph at page 44, line 18, with the following rewritten paragraph:**

When this optical disc 1301 is loaded into the disc recorder, the optical head moves to area 1303 to read the optimum position information for the leading and trailing mark edges. The read data signal 128 is then input to the memory 129, and the optimum position information for the leading and trailing mark edges is set in the pulse moving circuit 110 via bus.

**Please replace the paragraph at page 63, line 18, with the following rewritten paragraph:**

The asymmetry measuring circuit 140 compares the average of the high 3611 and low 3610 peak values of the reproduction signal 3605 with the slice level signal 3609. When the difference or ratio therebetween is outside a specified range, the peak power setting is off. The peak power setting is therefore adjusted according to the sign of this difference or ratio. This 6T pattern signal recording, reproduction, and asymmetry measurement loop is then repeated until the detected asymmetry is within a specific range.

**Please replace the paragraph at page 69, line 11, with the following rewritten paragraph:**

It is also possible in this case to quickly obtain the optimum temporary power setting using the information recorded to area 1806 when the margin constant, asymmetry information, and other temporary power information recorded to area 1803 is unreadable due to a disc error, soiling, or other problem.

IN THE CLAIMS:

Please cancel claims 1-69 without prejudice or disclaimer to the subject matter therein. Please add new claims 70-78 as follows.

--70. (New) A data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses where the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, said data recording medium comprising:

a control data zone for storing control data formed by pits, said control data comprising:

at least one of a first pulse movement for modifying a first pulse of said drive pulses, and a last pulse movement for modifying a last pulse of said drive pulses; and

an operational power information including at least one of the following: a peak power setting, bias power setting, and margin constant, said operational power information indicative of light beam power used for recording actual data to the data area.

71. (New) A data recording medium as claimed in claim 70, wherein said first pulse movement and last pulse movement indicate either a pulse shift amount for shifting said first and last pulses, respectively, or a pulse width amount for changing the pulse width of said first and last pulses respectively; and

wherein said control data in said control data zone further comprises a code indicating a method for using said first pulse movement and last pulse movement either as a pulse shift amount or as a pulse width amount.

72. (New) A data recording medium as claimed in claim 70, wherein said control data in said control data zone further comprises asymmetry as one of said operational power information.

73. (New) A recording and reproducing apparatus for recording and reproducing a data recording medium,

said data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses where the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, said data recording medium comprising:

a control data zone for storing control data formed by pits, said control data comprising:

at least one of a first pulse movement for modifying a first pulse of said drive pulses, and a last pulse movement for modifying a last pulse of said drive pulses; and

an operational power information including at least one of the following: a peak power setting, bias power setting, and margin constant, said operational power information indicative of light beam power used for recording actual data to the data area,

said recording and reproducing apparatus comprising:

a reading system that reads operational power information including at least one of peak power, bias power, and margin constant data; and

a determining system that determines drive pulse emission power based on the read operational power information.

74. (New) A recording and reproducing apparatus as claimed in claim 73, wherein said determining system for determining drive pulse emission power has a random signal generator for generating a random signal.

75. (New) A recording and reproducing apparatus as claimed in claim 73, wherein said determining system for determining drive pulse emission power has a simple pattern signal generator for generating a simple pattern signal that is a signal having a single period.

76. (New) A recording and reproducing method for recording and reproducing a data recording medium,

said data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses where the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, said data recording medium comprising:

a control data zone for storing control data formed by pits, said control data comprising:

at least one of a first pulse movement for modifying a first pulse of said drive pulses, and a last pulse movement for modifying a last pulse of said drive pulses; and

an operational power information including at least one of the following: a peak power setting, bias power setting, and margin constant, said operational power information indicative of light beam power used for recording actual data to the data area,

said recording and reproducing method comprising:

a reading step that reads operational power information including at least one of peak power, bias power, and margin constant data; and

a determining step that determines drive pulse emission power based on the read operational power information.

77. (New) A recording and reproducing method as claimed in claim 76, wherein said determining step for determining drive pulse emission power has a generating step for generating a random signal.

78. (New) A recording and reproducing method as claimed in claim 76, wherein said determining step for determining drive pulse emission power has generating step for generating a simple pattern signal that is a signal having a single period.--

### REMARKS

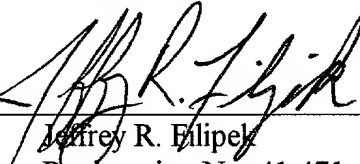
It is requested that the above amendments be entered prior to examination.

Attached hereto is a marked-up version of the changes made to the specification by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

Mamoru SHOJI et al.

By



Jeffrey R. Filipek  
Registration No. 41,471  
Attorney for Applicants

JRF/fs  
Washington, D.C. 20006  
Telephone (202) 721-8200  
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